No. 7400094

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Soybean Research Foundation, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF seventeen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'SRF 174-AT'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D.C. *this* 26th *day of* July *in the year of our Lord one thousand nine hundred and* seventy three.

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Serv.

Secretary of Agriculture

FORM GR-470
(12-15-72)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME	FOR OFFICIAL USE ONLY
SRF 174-AT	Soybeans	PV NUMBER 7400094
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 4.19.74 / TIME 10 A.M.
Glycine max (L.) Merr.	Leguminosae	FEE RECEIVED $ 250 / BALANCE DUE $ 0.00
	5. DATE OF DETERMINATION: November, 1969	$ / $
		$ / $

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
Soybean Research Foundation, Inc.	P.O. Box #72 Mason City, Illinois 62664	217 482-3219

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	Illinois	April 28, 1965

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

Arnold L. Matson
Director of Soybean Breeding
Soybean Research Foundation, Inc.
Mason City, Illinois 62664

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- [X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [X] 13B. Exhibit B, Botanical Description of the Variety
- [X] 13C. Exhibit C, Objective Description of the Variety
- [X] 13D. Exhibit D, Data Indicative of Novelty
- [X] 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [X] YES [ ] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [X] YES [ ] NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? [X] FOUNDATION [X] REGISTERED [X] CERTIFIED

The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

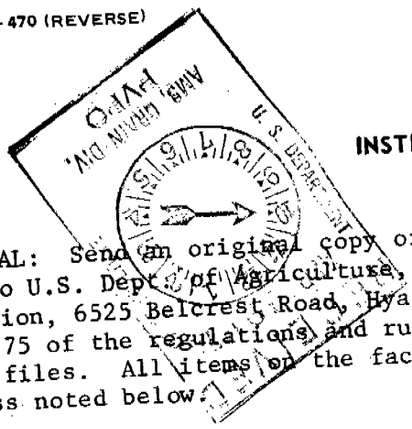
April 15, 1974
(DATE)

Arnold L Matson
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (REVERSE)



INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, 6525 Belcrest Road, Hyattsville, Maryland 20782. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.

13a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.

13b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.

13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.

13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

REVISED EXHIBITS A & D

SRF 174-AT Application No. 7400094, Soybean

Exhibit A -

SRF 174-AT soybeans was developed by bulking the seed from 24 F_3 plant rows from backcross Harosoy 63_9 x D61-5141. The parentage of D61-5141 is $Dorman_5$ x PI 181537. The 24 F_3 plant rows appeared to be uniform for plant type and subsequent generations exhibited no phenotypic variations as would be expected from a BC_8.

Exhibit D -

SRF 174-AT is very similar to its recurrent parent, Harosoy 63, except that (1) the trifoliate leaves are lanceolate instead of ovate, (2) seed size is slightly smaller 15.1 grams per 100 SRF 174-AT seeds compared to 17.6 grams per 100 Harosoy 63 seeds, (3) SRF 174-AT matures 1-2 days earlier than Harosoy 63, and (4) a larger percentage of its pods bear 4 seeds. This percentage may vary considerably, possibly as low as 20% or as high as 60%, depending upon conditions, but in all cases it will be higher than Harosoy 63 grown under the same conditions.

SRF 174-AT

Exhibit A - VOID - SEE REVISED EXHIBIT A Rfs

SRF 174-AT soybeans was developed by bulking the seed from 24 F_3 plant rows from backcross Harosoy 63_9 x D61-5141. The parentage of D61-5141 is $Dorman_5$ x PI 181537. The 24 F_3 plant rows appeared to be uniform for plant type.

Exhibit B -

Seed is spherical, seed coat is dull yellow, the hilum is yellow, pods brown, trifoliate leaves are lanceolate in shape, flowers are purple, and pubescence is gray. The growth habit is indeterminate. It is of early Group II maturity or late Group I. SRF 174-AT is very similar to Harosoy 63 in plant type, seed coat color, flower color, and disease resistance. It differs from Harosoy 63 in that it is 1-2 days earlier in maturity, seed size is slightly smaller (15.1 grams per 100 compared to 17.6 grams per 100), the leaf shape is lanceolate, and it bears considerable more 4 seeded pods. The percent of 4 seeded pods will vary with planting rate, soil type, and season but in all cases will be higher than for Harosoy 63 grown under same conditions. Like Harosoy 63, it is resistant to Phytophthora root rot, race 1 (Phytophthora megasperma var. sojae).

Exhibit D - VOID - SEE REVISED EXHIBIT D Rfs.

SRF 174-AT is very similar to its recurrent parent, Harosoy 63 except that (1) the trifoliate leaves are lanceolate in shape, (2) seed size is slightly smaller, (3) maturity is slightly earlier, and (4) a large percentage of its pods bear 4 seeds.

Exhibit E -

The Soybean Research Foundation is the employer of the breeder, Dr. Arnold L. Matson, and is therefore the sole owner of the "SRF 174-AT" variety of soybean.

FORM GR-470-2
(6-15-72)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN *(GLYCINE MAX)*

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Soybean Research Foundation, Inc.

ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code)*
P.O. Box #72
Mason City, Illinois 62664

FOR OFFICIAL USE ONLY

PVPO NUMBER
7700094

VARIETY NAME OR TEMPORARY DESIGNATION
SRF 174-AT

Place the appropriate number that describes the varietal character of this variety in the boxes below.

1. SEED SHAPE: [1] 1 = SPHERICAL 2 = SPHERICAL FLATTENED 3 = ELONGATE 4 = OTHER *(Specify)*

2. SEED COAT COLOR: [1] 1 = YELLOW 2 = GREEN 3 = BROWN 4 = BLACK 5 = OTHER *(Specify)* ____ SHADE: [ ] 1 = LIGHT 2 = MEDIUM 3 = DARK

3. SEED COAT LUSTER: [1] 1 = DULL 2 = SHINY

4. SEED SIZE [15] GRAMS PER 100 SEEDS

5. HILUM COLOR: [2] 1 = BUFF 2 = YELLOW 3 = BROWN 4 = GRAY 5 = IMPERFECT BLACK 6 = BLACK 7 = OTHER *(Specify)* SHADE: [ ] 1 = LIGHT 2 = MEDIUM 3 = DARK

6. COTYLEDON COLOR: [1] 1 = YELLOW 2 = GREEN

7. LEAFLET SIZE *(See Reverse)*: [1] 1 = SMALL 2 = MEDIUM 3 = LARGE

8. LEAFLET SHAPE: [3] 1 = OVATE 2 = OBLONG 3 = LANCEOLATE 4 = ELLIPTICAL 5 = OTHER *(Specify)*

9. LEAF COLOR *(See reverse)*: [2] 1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

10. FLOWER COLOR: [2] 1 = WHITE 2 = PURPLE 3 = OTHER *(Specify)* ____

11. POD COLOR: [2] 1 = TAN 2 = BROWN 3 = BLACK

12. POD SET: [ ] 1 = SCATTERED 2 = CONCENTRATED

13. PLANT PUBESCENCE COLOR: [1] 1 = GRAY 2 = BROWN 3 = OTHER *(Specify)* ____ SHADE: [ ] 1 = LIGHT 2 = MEDIUM 3 = DARK

14. PLANT TYPES *(See Reverse)*: [3] 1 = SLENDER 2 = BUSHY 3 = INTERMEDIATE

15. PLANT HABIT: [2] 1 = DETERMINATE 2 = INDETERMINATE 3 = OTHER *(Specify)* ____

16. HYPOCOTYL COLOR: [2] 1 = GREEN 2 = PURPLE

17. SEED PROTEIN: [ ] 1 = A 2 = B

18. NUMBER OF DAYS TO FLOWERING *(Place a zero in first box (e.g. [0][9]) when days are 9 or less.)* [ ][ ]

19. MATURITY GROUP: [4] 1 = 00 2 = 0 3 = I 4 = II 5 = III 6 = IV 7 = V 8 = VI 9 = VII 10 = VIII

20. SIZE OF 10 DAY OLD SEEDLING GROWN UNDER CONSTANT LIGHT *(Growth Chamber)* **AT 25° C.** *(Place a zero in first box (e.g. [0][2]) when size is 9 mm. or less.)*

[ ][ ][ ] MM. LENGTH OF SEEDLING
[ ][ ] MM. LENGTH OF COTYLEDON
[ ][ ] MM. WIDTH OF COTYLEDON

21. DISEASE: *(Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)*

[0] BACTERIAL PUSTULE	[0] SOYBEAN CYST	[0] DOWNY MILDEW	[0] PURPLE STAIN	[0] POD AND STEM BLIGHT	[0] ROOT KNOT
[0] FROGEYE	[0] STEM CANKER	[2] PHYTO-PHTHORA	[0] BROWN STEM ROT	[0] TARGET SPOT	[0] BROWN SPOT
[0] BUD BLIGHT	[0] WILDFIRE	[0] RHIZOCTONIA ROT	[ ] OTHER *(Specify)* ____		

FORM GR-470-2 (REVERSE)

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant shape	Harosoy 63	Petiole angle	Harosoy 63
Leaf shape	SRF 200	Seed size	SRF 200
Leaf color	Harosoy 63	Seed shape	Harosoy 63
Leaf surface	Harosoy 63	Seedling pigmentation	

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY:

VARIETY	NO. OF DAYS TO MATURITY	LODGING SCORE	PLANT HEIGHT	LEAF SIZE		CONTENT		AVERAGE NO. OF PODS PER PLANT	IODINE NO.
				Width	Length	Protein	Oil		
Submitted	123	2.3	44			41.3	22.5 %		
Name of similar variety	125	3.3	41			42.0	22.1		

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for completing this form:

1. Scott, Walter O. and Samuel R. Aldrich, 1970, Modern Soybean Production, The Farmer Quarterly.
2. Norman, A. G., 1963, The Soybean: Genetics, Breeding, Physiology, Nutrition, Management.
3. McKie, J. W., and K. L. Anderson, 1970, The Soybean Book.

LEAF COLOR: Nickerson's or any recognized color fan may be used to determine the leaf color of the described variety. The following Soybean varieties may be used as a guide to identify the colors listed on the form.

COLOR	VARIETY
Light Green	"Ada"
Medium Green	"Wilkin"
Dark Green	"Swift"

LEAF SIZE: The following varieties may be used as a guide to identify the relative size leaves.

SIZE	VARIETY
Small	"Amsoy"
Medium	"Bonus"
Large	"Anoka"

PLANT TYPE: The following varieties may be used as a guide to identify the plant type.

TYPE	VARIETY
Slender	"Vansoy"
Intermediate	"Wirth"
Bushy	"Adelphia"